Understanding Basic Concept of Electrical and Electronic Systems

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5. PROBES

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5.0 Abstract

Probes are electrical conductors used to connect signal generators to oscilloscopes or multimeters. A simple wire can be a probe to connect signal source to a measuring device. This simple wire acts as passive conductor without any effect over the signal. The active probes are usually having some scaling factor so that input signal during connection from source to device can either amplify or disseminate by a factor multiplied by the probes. In this lab students will learn the proper usage of these probes so that any factor that affects the actual measurement may be considered for final and precise measurement.

Introduction:

Now you are ready to connect a probe to your oscilloscope. It is important to use a probe designed to work with your oscilloscope. A probe is more than a cable with a clip-on tip. It is a high-quality connector, carefully designed not to pick up stray radio and power line noise.

Probes are designed not to influence the behavior of the circuit you are testing. However, no measurement device can act as a perfectly invisible observer. The unintentional interaction of the probe and oscilloscope with the circuit being tested is called *circuit loading*. To minimize circuit loading, you will probably use a 10X attenuator (passive) probe.